



Features & Benefits

- Accurately measures up to ten key outdoor air quality parameters
- Powered via battery or an external source
- Optional Solar Power Supply (SPS)
- Optional gas sensor, CH₂O, CO, NO₂, H₂S, SO₂
- Optional sound sensor
- Communicates via outstanding LoRaWAN wireless technology
- Simple integration into BMS via BACnet or Modbus gateway

Technical Overview

Outdoor air quality monitor measures key environmental parameters continuously and in real time with exacting accuracy. Using cutting-edge digital and gas sensing technology, the OAQ ensures drift-free reading without further calibration and extended instrument longevity. Available with temperature, relative humidity, particulate matter, CO₂, Ozone, VOC's, barometric pressure, sound level and internationally approved Air Quality Index – AQI.

Technical Specification

Radio output type	LoRaWAN
Frequency Range	863-870MHz, 902-928MHz
Security	AES 128 encryption
Batteries	4 x AA sized 3.6V Lithium Thionyl Chloride. LS14500
Battery Life	2+ Years
VOC's	IAQ Index 0 to 500 (see below) TVOC level (ppm) Variability ±15% (typical) Response time: (tr33-63%) 1 s
Barometric Pressure	Accuracy: ±0.12hPa (equivalent to ±1m in altitude) Range (with full accuracy): 300 – 1100hPa Resolution: 0.18Pa
Particulate matter	PM0.5, PM1, PM2.5, PM4 & PM10 Sensing method: Laser-based light scattering particle sensing Concentration range: 0-1000µg/m ³ Accuracy: PM1, PM2.5 0µg/m ³ to 100µg/m ³ ± 5µg/m ³ +5% m.v. 100µg/m ³ to 1000µg/m ³ ± 10% m.v. PM4, PM10 0µg/m ³ to 100µg/m ³ ± 25µg/m ³ 100µg/m ³ to 1000µg/m ³ ± 25% Response Time: < 6s (t90) Sensor life expectancy: > 3 years

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EPA Air Quality Index (AQI)	AQI Index 0 to 500 Ozone detection 20 – 500 ppb Nitrogen Dioxide Detection 20 – 500 ppb Variability ± 50 AQI
CO2	Sensing method: Optical. Non-dispersive infrared (NDIR) Accuracy: $\pm(30, +3\%)$ ppm (typ.) Range: 0 – 5,000 ppm Extended range 0 – 10,000 ppm Response time: 3 minutes (t90) Sensor life expectancy: >15 years
Operating Humidity	0 – 95%RH, Non-Condensing
Operating Temperature	-10 – 40°C
Optional permanent supply	2-24V Volts DC. 0.15 Amp (max)
Output range humidity	Accuracy: $\pm 2\%$ (typical) Repeatability: $\pm 0.1\%$ Response time: 15s
Output range temperature	Accuracy: $\pm 0.2^\circ\text{C}$ (typical) Repeatability: $\pm 0.1^\circ\text{C}$ Conversion time: 6.35ms
Housing Material	Nylon PA12
Housing colour	Black
Dimensions	180mm x 120mm x 51mm
IP Rating	IP42 (conformally coated electronics)
Compliance	Pre-certified radio regulatory approvals: 868 & 915 MHz spectrum CE, FCC RoHS MCERTS Certified (PM2.5)
Country of origin	UK

Related Product Codes

RF-LW-TOAQ	Outdoor Air Quality Monitor. Temperature, Relative Humidity, VOC's, Barometric Pressure. Particulate Matter - PM1, 2.5, 4, 10. EPA AQI Air Quality Index (based on NO2 and O3).
RF-LW-TOAQ-CO2	Outdoor Air Quality Monitor. Temperature, Relative Humidity, VOC's, Barometric Pressure. Particulate Matter - PM1, 2.5, 4, 10. EPA AQI Air Quality Index (based on NO2 and O3). CO2